



FLORIDA STATE
UNIVERSITY

Innovative Approaches to Supporting Public Librarians in Natural Disasters: Promising Solutions from Medicine and Engineering

A Panel Presentation

Marcia A. Mardis, iSchool@Florida State University,
Moderator

November 19, 2019



Minute Survey!

- Is your library system **at risk** for adverse weather events (e.g., wildfires, hurricanes, floods)?
- How **satisfied** are you with your library system's preparation, response, and post-event evaluation?
- Would you be interested in finding out how other Florida librarians have **effectively responded** to hurricanes?



Today's Agenda

- **Welcome and Opening Remarks**—Marcia A. Mardis
- *Rural Libraries and Disasters: Investigating Resiliency in the Digital Environment and Beyond*—Curtis S. Tenney
- *Transportation Accessibility Assessment of Critical Facilities: A GIS-Based Case Study in Northwest Florida Focusing on Libraries*—Mahyar Ghorbanzadeh
- *The Skills for Life Adjustment and Resilience (SOLAR) Program*—Scott Pickett
- **Audience Engagement:** Comments, Questions



Rural Libraries and Disasters: Investigating Resiliency in the Digital Environment and Beyond

Curtis S. Tenney



RE-96-18-0127-18



Building on Our Previous Research

Library Information Management Hurricane Preparedness and Response Service Roles	
Be a Community Information Hub	Be a Community Organizer & Meeting Place
Extend Normal Service in Abnormal Times	Provide Improvised On-Demand Services
Aid Evacuees	Ensure Library Continuity & Restoration
Serve as a Point of Distribution (POD)	

This collaboration builds on hurricane preparedness research led by **Charles R. McClure, Director, FSU Information Institute**



***Investigating Resiliency* Researchers**

The University of Texas at Austin

Sharon Strover
Principal Investigator
sharon.strover@austin.utexas.edu

Cameron Lindsey
Doctoral Researcher
Cameron.lindsey@utexas.edu

Martin J. Riedl
Doctoral Researcher
Cameron.lindsey@utexas.edu

Florida State University

Marcia A. Mardis
Co-Principal Investigator
mmardis@fsu.edu

Faye R. Jones
Co-Principal Investigator
Faye.jones@cci.fsu.edu

Curtis S. Tenney
Doctoral Researcher
cst17@my.fsu.edu

Zoë Leonarczyk
Doctoral Researcher
ezcl18b@my.fsu.edu

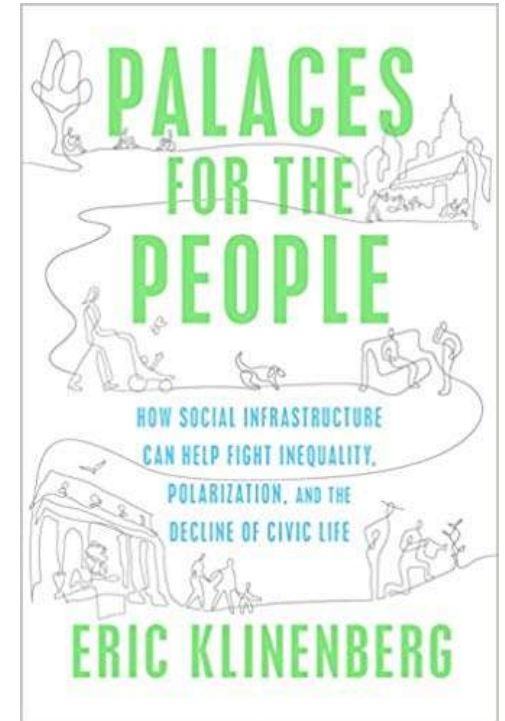


Rural Libraries and Disasters: Investigating Resiliency in the Digital Environment and Beyond Objectives

- Investigate how small and rural libraries contribute to community viability.
- Examine how small and rural libraries approach resiliency, using moments of disaster in a series of case studies.
- Document community organizations that respond in a time of disaster and alert these same community organizations to the centrality of public librarians.

What is resilience?

- Resiliency as Process
- Resilience: “...a community’s ability to strengthen its response to deal with crises or disruptions” (Colten, Kates, & Laska, 2008).
- The various roles of librarians and libraries contributing to community resilience in preparing for and responding to disaster.
- Librarians and Libraries contribute to Social Infrastructure
 - “The physical places and organizations that shape the way people interact” (Klinenberg, 2018).





Method & Approach

- Grounded Theory
- Conceptualize Resilience as a Process
- Interviews and Surveys to Investigate Qualities of Resilience
- Case studies Using Varied Public Library Sites in Florida & Texas
- Examine Phases & Framings of Resilience
- Create Timelines & Categories of Responses to Disasters

—

Preliminary Findings



Balancing Roles

“My role was so different. I did a little bit of the social media of the library while I was gone but I was also balancing two jobs.”

- Community and Social Relations Librarian

- Challenge of maintaining and extending normal services and roles while learning and performing added recovery services and roles.
- Tracking and Reporting Librarians' Work during this time
 - 214 Forms. FEMA



Libraries and Librarians responding: Disaster Relief and Resilience

Meeting Spaces

"We get called almost every day at reference to try and find a place for people."

- Reference Librarian
- Community resource and recovery organizations occupy vital public library space during recovery
- Invisible Librarian Work
 - Such as canceling pre-existing meeting room reservations



Continuing to Learn: Connections and Communication Links

Climate Justice Information:

NOAA (National Oceanic and Atmospheric Administration); St. Andrew Bay Resource Management (Baywatch); LEAD Coalition; Better Shelter

Legal Information:

Courts--landlord/tenant; quit claim; squatter's rights

Disaster Recovery Information:

FEMA/SBA; MAD Relief

St. Andrew Bay Resource Management (name change to Baywatch)

Florida Library Association (library recovery)

Blue Roofs -- Information Dissemination

Health Information:

Elder care--in-person visiting



Addressing Mental Health: Community Disaster Recovery

Information shared by State Library of Florida

Librarians Reported:

- Suffering from Compassion Fatigue
- Need for Services of a Counselor or Therapist
- Survivor's Guilt

After the Storm

“One of the little boys said, ‘Uh oh the library's broke. The Library's broke too.’”

Librarians created this display of books and other resources because children wanted to learn more about the storm that had just affected their community.





Public Librarians are Resilient Responders Who Need Support, Too

- Florida Panhandle public librarians are on the community's disaster front line:
"We survived only because we all helped each other."
- However, librarians report little or no emotional support training:
"Nothing prepares you to be one of the storm people."
- And face unique challenges of long-term community recovery:
"Things are not the same and they never will be...not in my lifetime."
- Though not trained to engage in empathetic services, librarians provide them without support for their own needs:
"I have survivor's guilt," and *"I try to cry only at home."*
- The storm has led to over 100 deaths and at least \$25 billion in damage:

"Hurricane Michael not only caused physical damage...it has left scars on the hearts and minds of survivors."

(WFSU, May 10, 2019).



Community Narratives

“I think telling our stories is huge. That has been overwhelming, too. I mean when I tell my story, I just can't stop.” - Outreach Librarian

- Historical Preservation
- *Storm Stories*
 - Example: Buddy Nachtsheim, *Hurricane Honey* - (Goodnewshoney.com)



Next Steps

- Additional Site Visits to Build Case Studies
- Interviews with Emergency Management and Planning: Emergency Operations Center
- Collaborating to address trauma issues
- Collaborating to enhance disaster planning and response



References

Colten CE, Kates RW, Laska SB. (2008). Three years after Katrina: Lessons for community resilience. *Environment*, 50(5), 36–47.

Klinenberg, E. (2018). *Palaces for the People: How Social Infrastructure Can Help Fight Inequality, Polarization, and the Decline of Civic Life*. New York: Crown.



Transportation Accessibility Assessment of Critical Facilities: A GIS-Based Case Study in Northwest Florida Focusing on Libraries

Mahyar Ghorbanzadeh, Eren Erman Ozguven, Curtis S. Tenney, Zoe Leonarczyk, Faye R. Jones,

Marcia A. Mardis

Florida State University

11.19.2019



Outline

- Introduction
- Case Study
- Research Methodology
- Accessibility of Population Block Groups
- County-based Accessibility
- Conclusions and Future Research



Introduction

- Accessibility to public service facilities such as libraries has become a growing concern especially in the aftermath of hurricanes since these facilities provide essential services to people.
- Libraries play critical roles in disseminating vital information.
- This problem becomes even more challenging when we consider serving at-risk populations such as seniors or people who are living in the rural areas.
- Elderly citizens are consistently disproportionately impacted by hurricanes and 70% of those who died due to Hurricane Katrina were individuals 60 or older.



Introduction

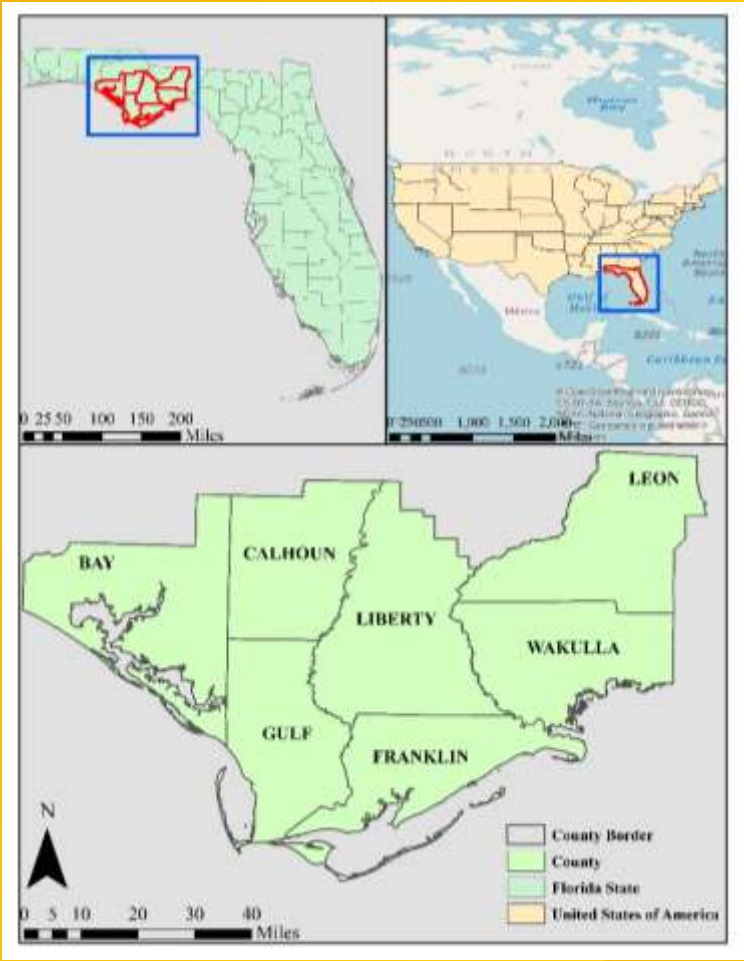
- As of 2016, Florida's population was approximately 20 million, and there were 3,797,625 people aged 65 and up, making up approximately 19% of the total population.
- Over the last three years, Hurricane Hermine (2016), Irma (2017), and Michael (2018) have caused substantial damages to the infrastructure such as roadway and bridge closures in the State of Florida in the U.S.
- As such, the purpose of this study is twofold:
 - The first objective of this paper is to assess the accessibility of population block groups to libraries in seven counties (Bay, Calhoun, Franklin, Gulf, Leon, Liberty, and Wakulla) of Northwest Florida.
 - The second purpose of this paper is to document the extent to which total and senior population can access libraries.



Case Study

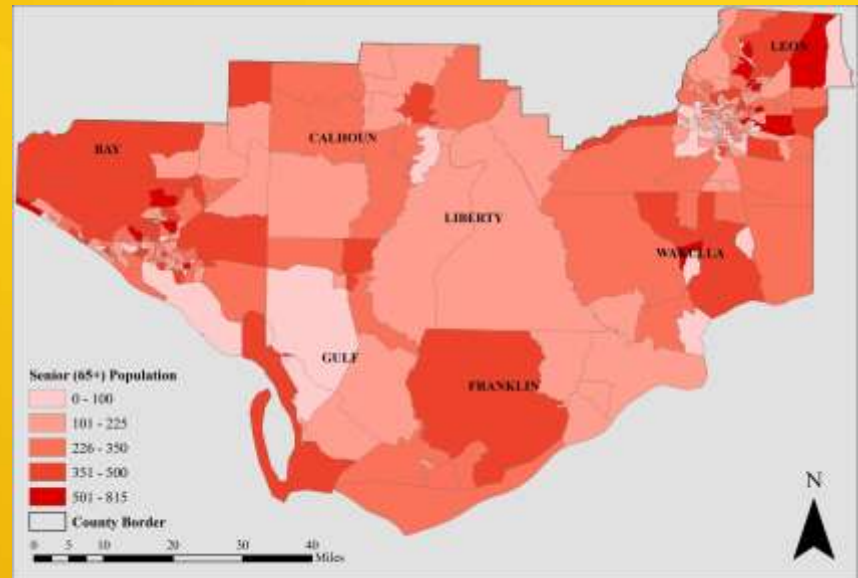
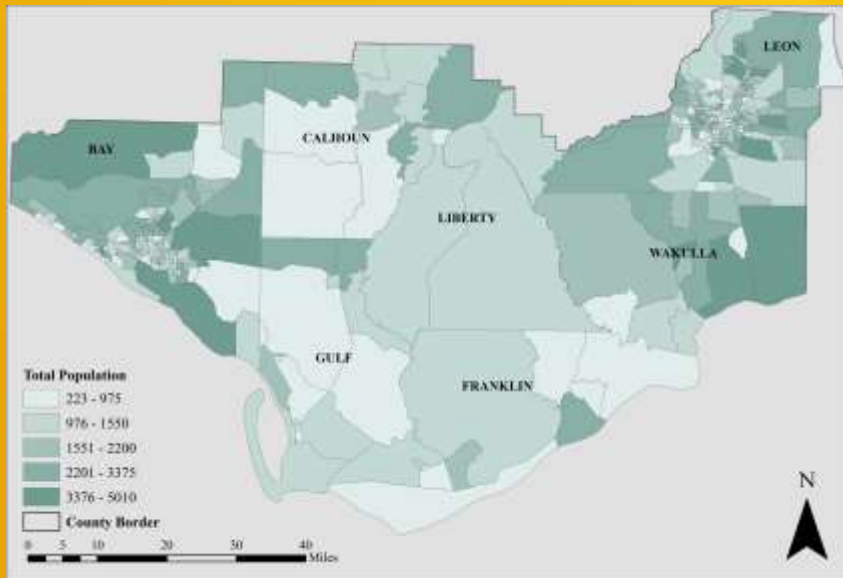
- Seven counties in Northwest Florida were selected as case studies: Bay, Calhoun, Franklin, Gulf, Leon, Liberty, and Wakulla.
- These counties were seriously affected by Hurricane Michael in 2018 with a poor accessibility to emergency facilities.
- There are **345 population block groups** in these counties, where the amounts of total and senior population (65+) are **544,854** and **73,777**, respectively.
- In the study area, there are **90 libraries**.

Case Study



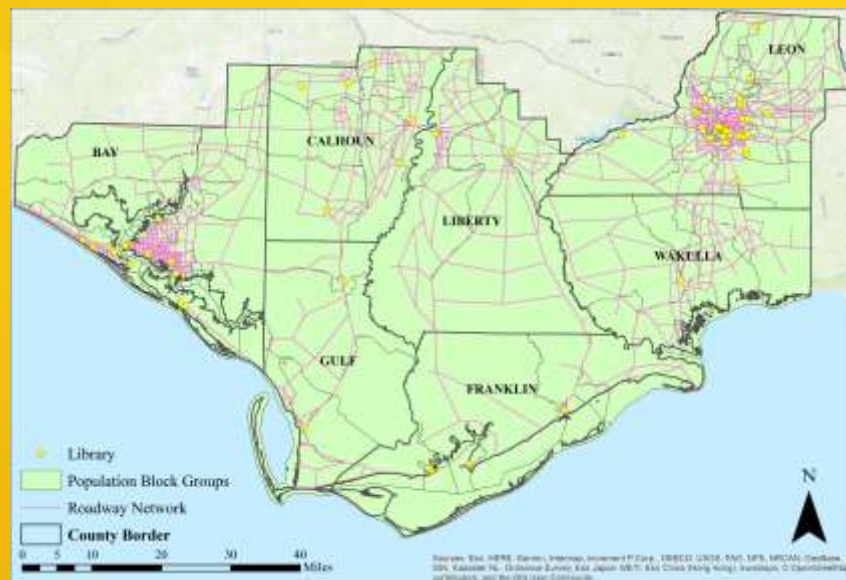
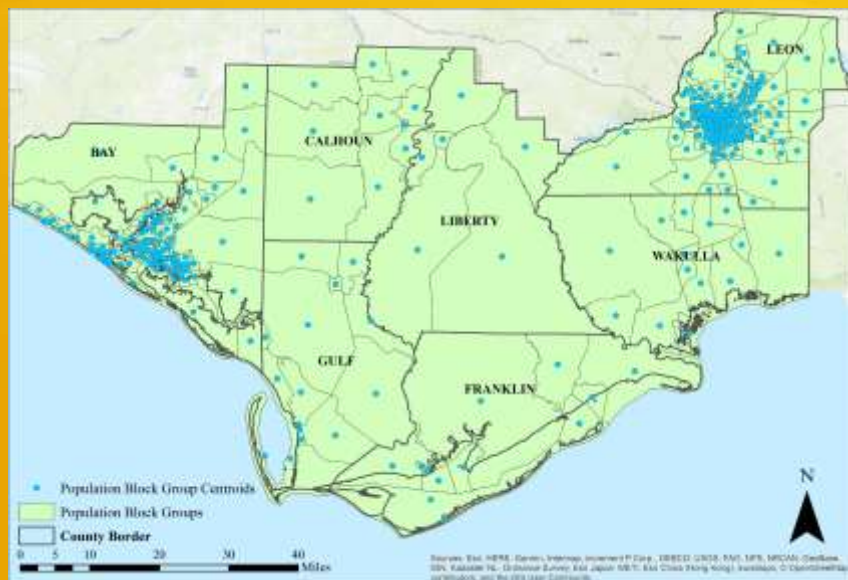


Spatial distribution of total and senior (65+) populations





Census block groups and their centroids





Research Methodology

1. Accessibility of Population Block Groups to Facilities (Libraries):

- Obtaining the congested travel times for each roadway link in the transportation network based on the FSUTMS model built in CUBE software.
- Conducting Network Analyst module (Closest Facility) in ArcGIS software to find the optimal path with the least cost between origins and destinations.
- Visualizing the accessibility of each census block group to facilities using GIS-based maps.
- Identification of population block groups with the highest and lowest accessibility to these facilities.



Research Methodology

2. County-based Accessibility to Facilities for Total or Senior Population:

- Calculating the weighted average of travel cost for each county

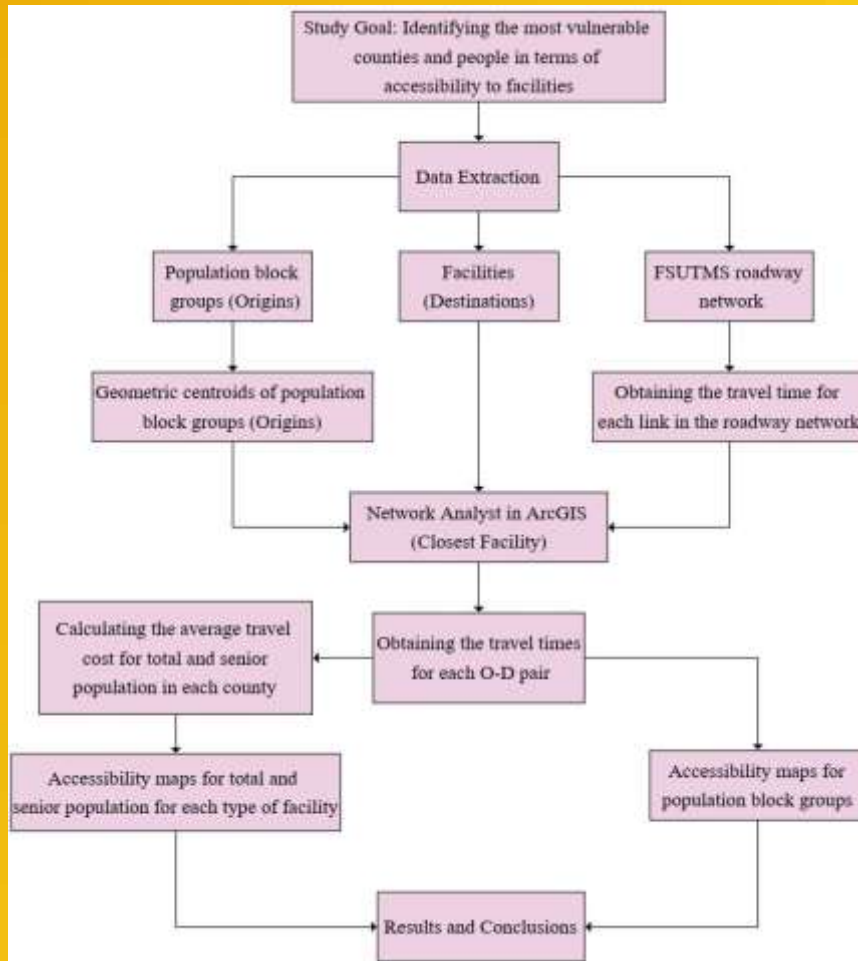
Travel cost at population
block group i

$$\text{Weighted average} = \frac{\sum_{i=1}^n (\text{cost}_i * \text{Pop}_i)}{\sum_{i=1}^n (\text{Pop}_i)}$$

Total or senior population
living in the population block
group i

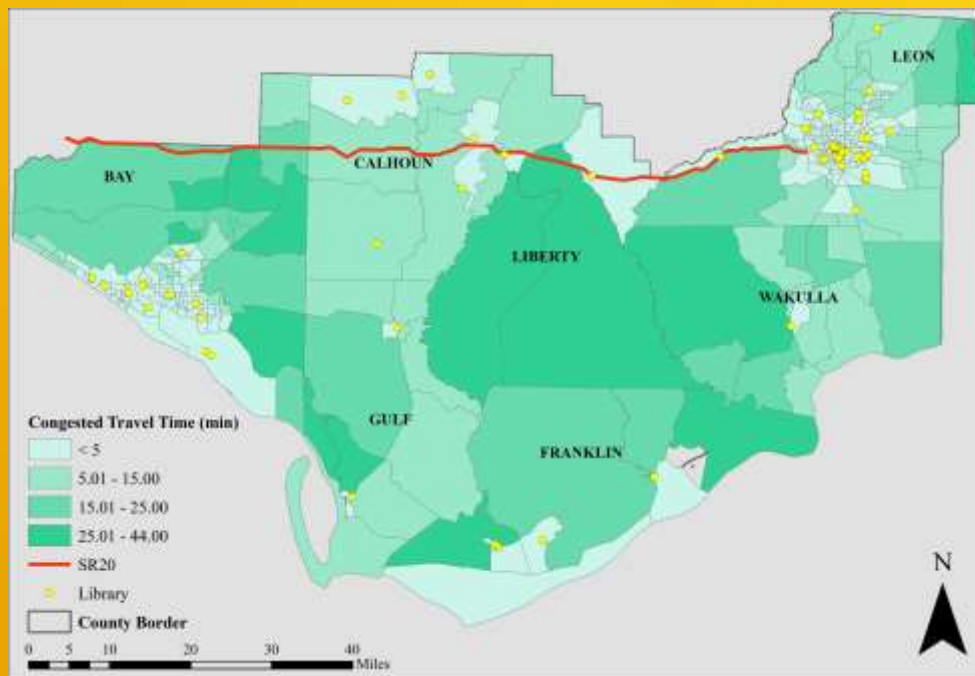
Total number of the focused
population in the county

Conceptual Flowchart Of The Proposed Methodology





Results: Accessibility of Libraries





Accessibility Discussion

- Population block groups located in the center of Leon County, where the City of Tallahassee is located and the Southern region of Bay County, where Panama City is located, have high accessibility to libraries (less than 5 min).
- Most census block groups in the Calhoun County have relatively high access to libraries with the travel times 6 to 13 min.
- Most of the population blocks in the counties such as Liberty, Franklin and Wakulla and northeastern section of the Bay County have a poor accessibility to libraries.

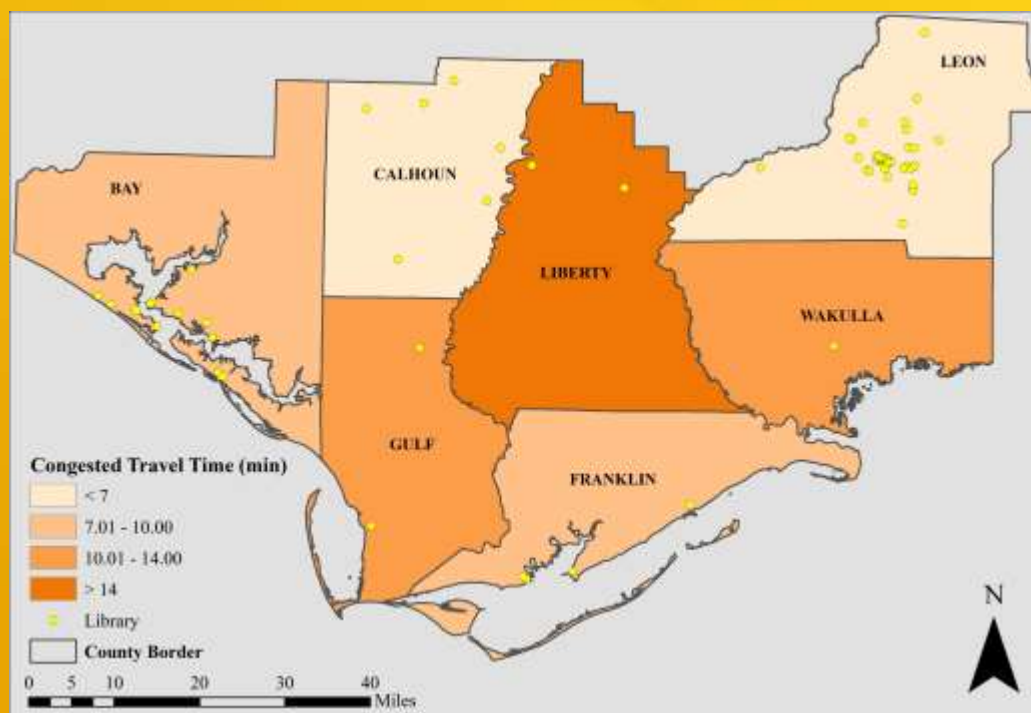


County-Based Accessibility Analysis (Total Population)

	Weighted Average (Libraries)
County	Congested Travel Time (min)
Bay	7.38
Calhoun	6.17
Franklin	8.86
Gulf	12.8
Leon	4.03
Liberty	15.95
Wakulla	13.89



County-Based Accessibility (Libraries and Total Population)



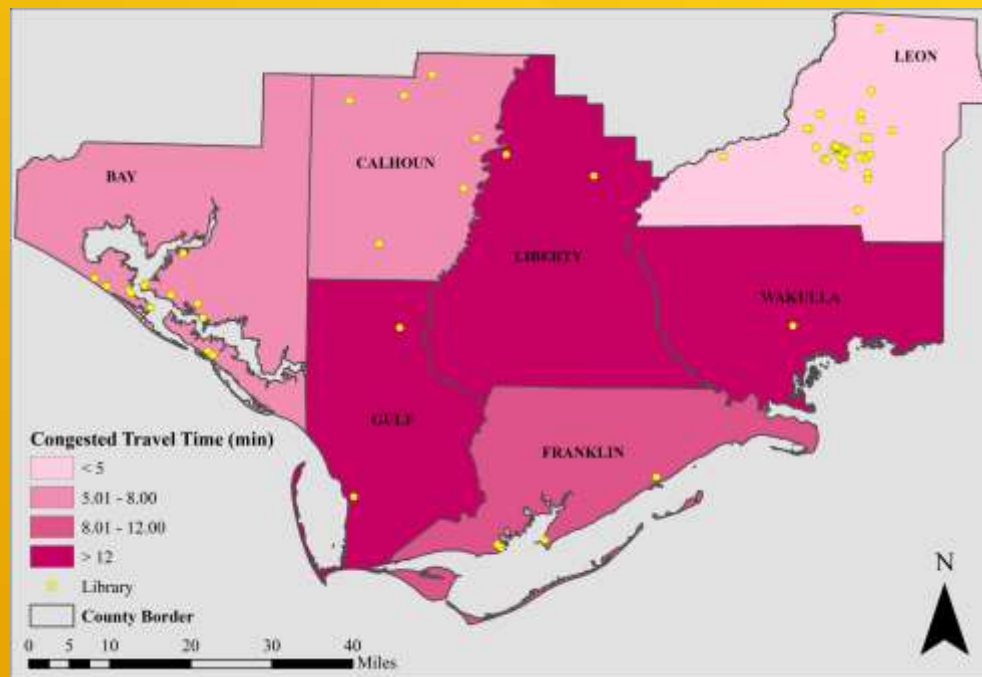


County-Based Accessibility Analysis (Senior Population)

	Weighted Average (Libraries)
County	Congested Travel Time (min)
Bay	7.36
Calhoun	6.54
Franklin	9.74
Gulf	16.62
Leon	4.89
Liberty	16.69
Wakulla	14.62



County-Based Accessibility (Libraries and Senior Population)





County-Based Accessibility Analysis Discussion

- **Total Population-focused Accessibility**

- Liberty County has the least accessibility to libraries with respect to total population.
- Leon and Calhoun Counties with the least travel cost values rank the first in terms of accessibility to libraries.

- **Senior Population-focused accessibility**

- Gulf, Liberty, and Wakulla counties have a limited access to libraries.
- Leon County has the highest accessibility to libraries amongst the all counties.



Conclusions

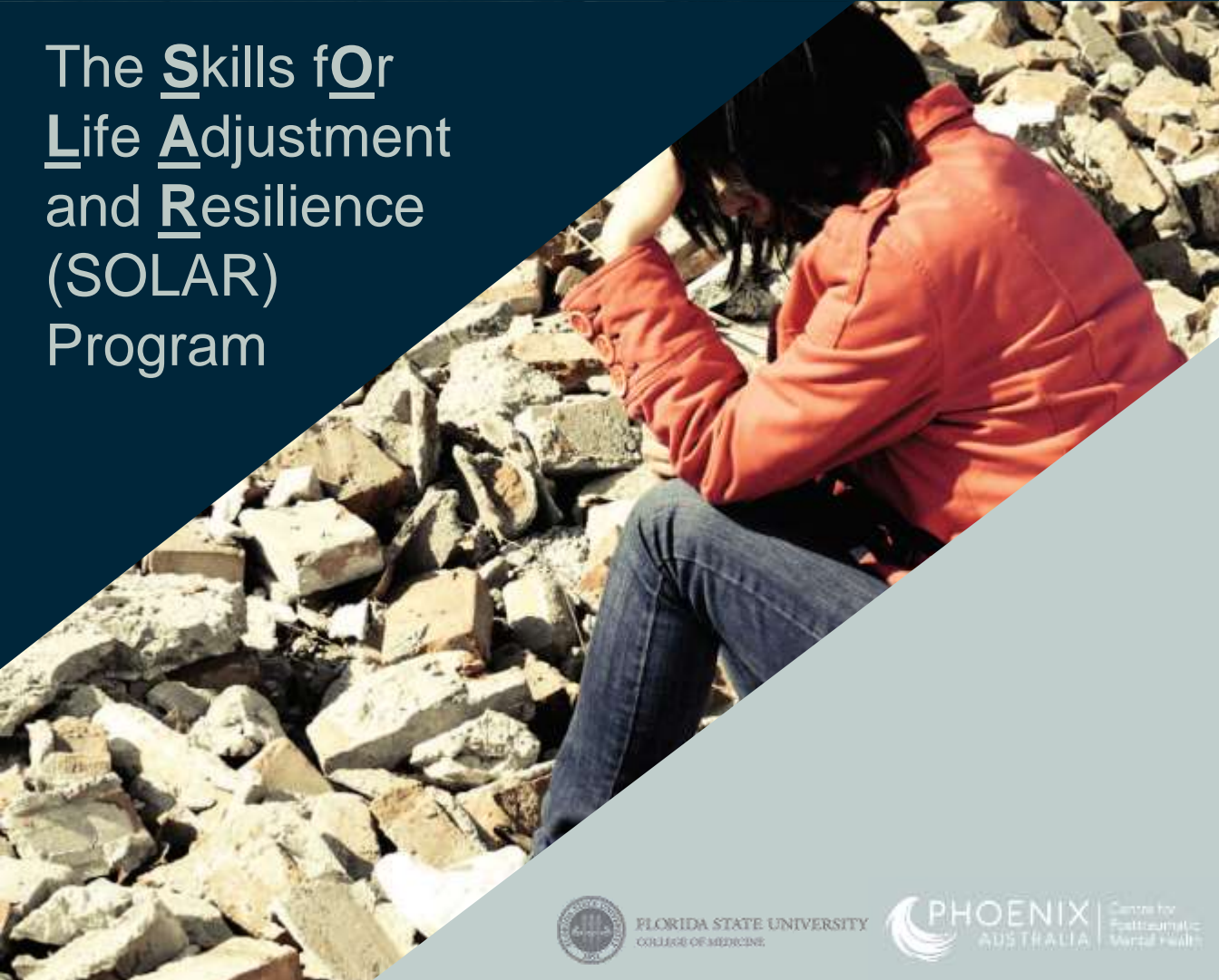
- Leon County, which hosts the City of Tallahassee, the state capital, has the highest accessibility to libraries for both total and senior population groups.
- Wakulla, Liberty and Gulf counties have a very limited access to libraries based on their high travel times for both population segments.
- The counties with the least access to libraries are mostly in rural areas.
- Liberty has a travel time more than 15 min, which indicates that it has the least county-based accessibility to libraries.



Future Research

- This study considered the congested travel time between origins and destinations; however, other impediments, such as distance and free flow time between origins and destinations can also be used.
- This study can be extended to the other types of facilities such as police stations, animal shelters, etc.
- This study only focused on the accessibility of total and senior population groups; however, this methodology could be applied to other population groups such as young population and special needs population.
- In this study, seven counties in Northwest Florida were studied. As a future work, the accessibility of other vulnerable areas in the State of Florida can be assessed.

The Skills fOr
Life Aadjustment
and Resilience
(SOLAR)
Program



Scott M. Pickett, PhD
&
Samantha Nagy, MS

Center for Translational Behavioral
Science

Public Library Director's Meeting
November 19, 2019



FLORIDA STATE UNIVERSITY
COLLEGE OF MEDICINE



PHOENIX
AUSTRALIA | Centre for
Posttraumatic
Mental Health



Goals of Presentation

- Define Trauma and Natural Disasters
- Framework for SOLAR Program
- Modules of the SOLAR Program
- Efficacy for SOLAR Program

Trauma and Natural Disasters

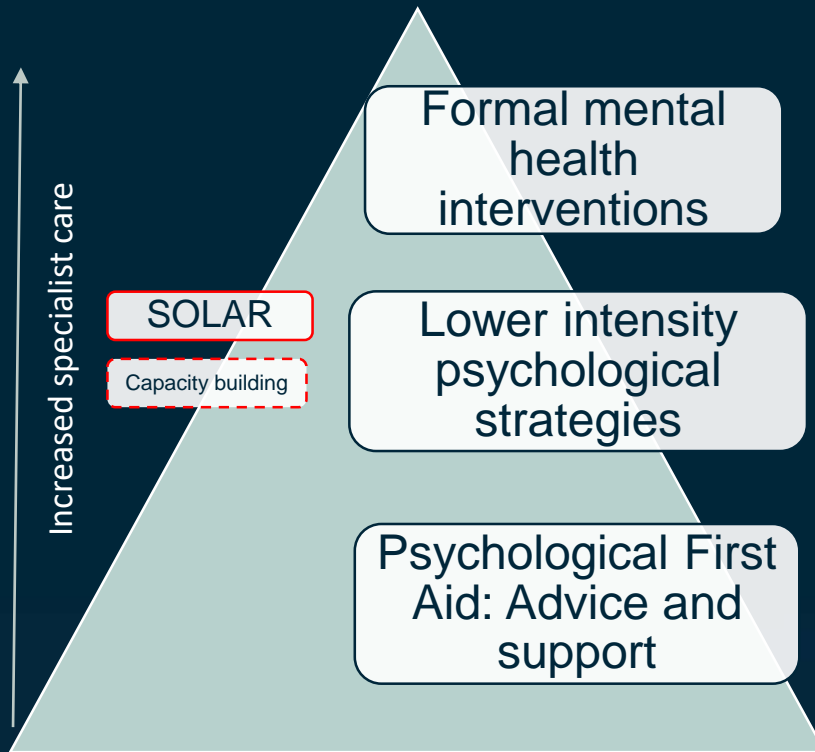
- American Psychiatric Association definition
- Natural Disasters affect 125 million people worldwide
 - natural (e.g., floods, hurricanes, earthquakes)
 - versus human (e.g., mass violence, terrorism)
- Mental Health consequences (among many other devastating outcomes)
 - alcohol/substance use
 - posttraumatic stress disorder (PTSD)
 - obsessive compulsive disorder
 - major depressive disorder

Development of SOLAR

- Created by international collaboration of disaster & post-trauma mental health and practice experts
- Tested in Australia with bushfire survivors and in Tuvalu with tropical cyclone survivors
- In development: Queensland, Australia floods, Japan earthquake(s), Child and Adolescent SOLAR



Where does SOLAR fit?

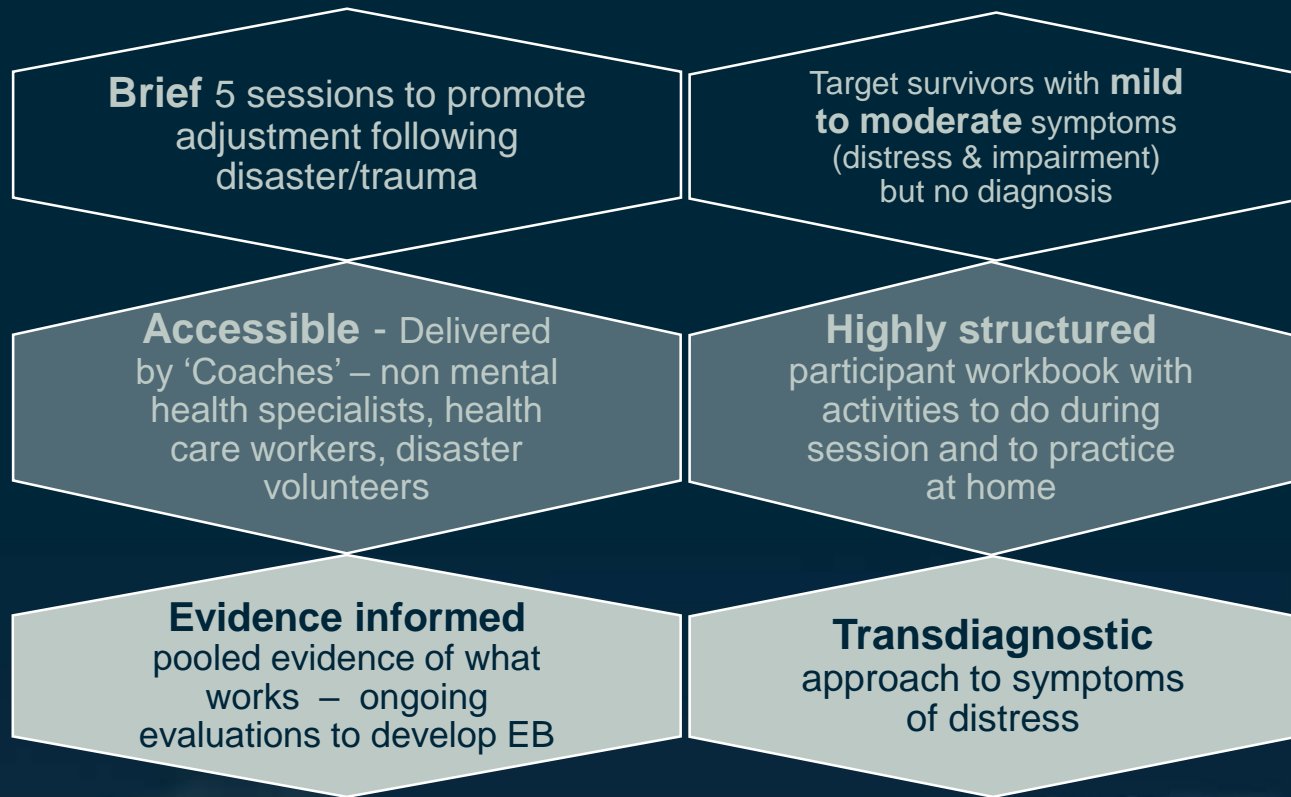


Formal psychological and pharmacological interventions for people with diagnosable psychiatric disorders.

Simple, brief, practical psychological and social strategies for people below threshold for psychiatric disorders (~6 months post-disaster).

Advice and practical and emotional support in the days and weeks following a disaster.

The SOLAR Program

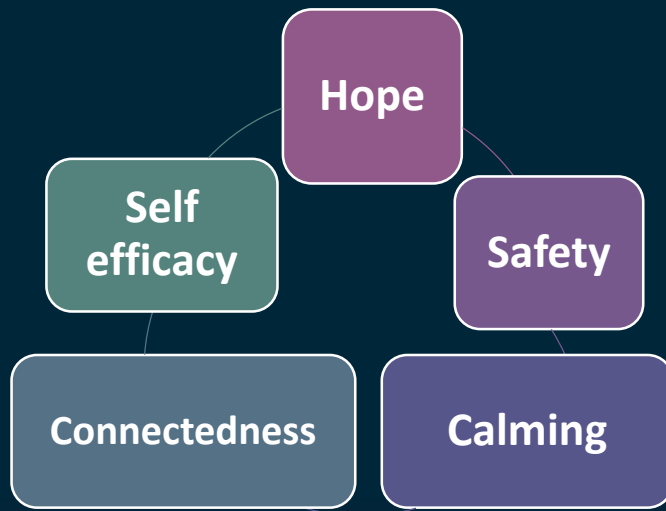


Goals of SOLAR

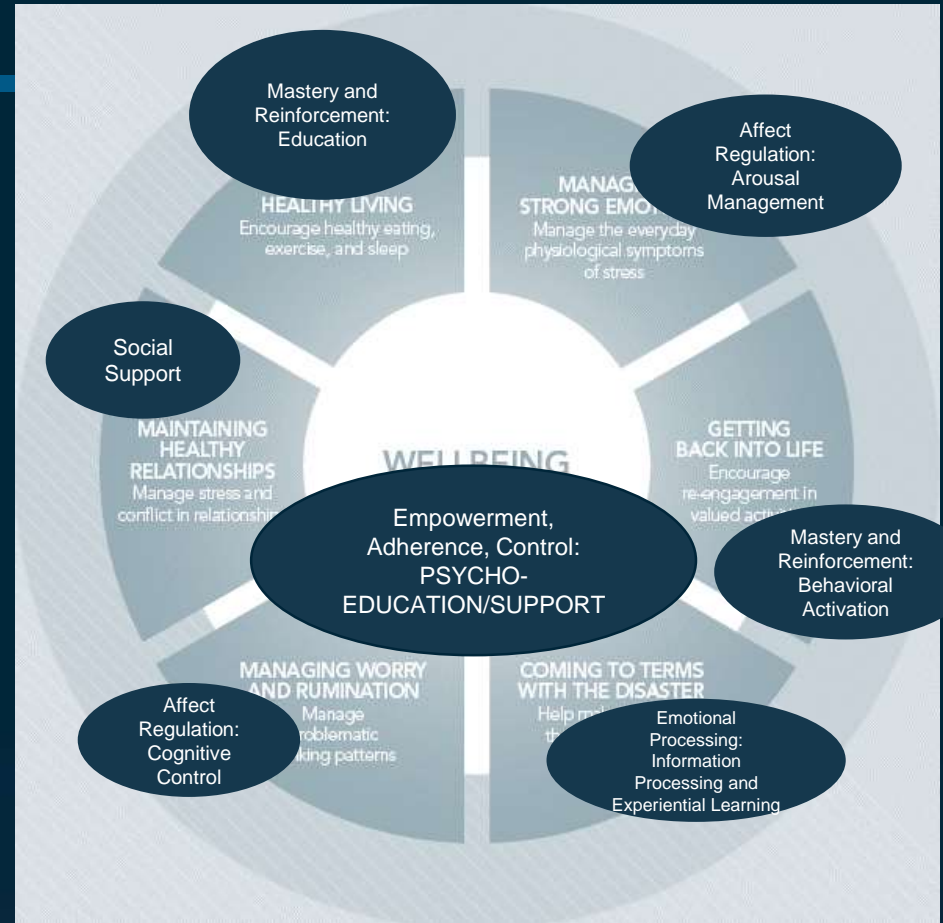
- Assist people with difficulty adjusting following disaster
- Reduce stress or distress symptoms
- Increase sense of safety and control
- Facilitate connections and support
- Facilitate understanding of reactions & long-term responses to disaster
- Return to “new normal”, pre-disaster social/occupational functioning
- Improve quality of life
- Reduce risk of future mental health disorder

SOLAR Framework

- Based on Hobfall principles (2007):



- 6 modules across 5 sessions
- Multiple modules addressed per session



Coach Recruitment and Training

- **Coaches are VOLUNTEERS who:**

- may already be involved in disaster efforts
- are integrated in the community (seen as an insider), and
- may feel well enough to deliver the program

- **Core skills needed:**

- Understanding disaster reactions
- Communications skills (verbal/nonverbal)
- Active listening
- Empathy versus sympathy
- Open-ended questions
- Follow SOLAR Manual



Coach Support

- **Supervisors Support Coaches**

- **Facilitate** – encourage Coaches to engage with learning process and come up with their own way to use knowledge; link learning to ongoing roles; elicit attitudes towards trauma presentations
- **Present** – provide knowledge in a didactic manner
- **Teach** – model skills and provide opportunities for rehearsal and feedback
- **Evaluate** – evaluate Coach competence and monitor Coach wellbeing and suitability to provide the program
- **Supervise** – provide feedback, support, and advice to Coaches

Coach Supervision



- Establish ground rules and structure
- Ensure adherence
- Assist case management, discuss cases, skills development
- Act as a 'clinical assessor'
- Support coach and facilitate their self-care
- Ensure coaches understand boundaries of role, and not taking on more than should be
- Follow-up with any coaches who have concerns outside of scheduled supervision.

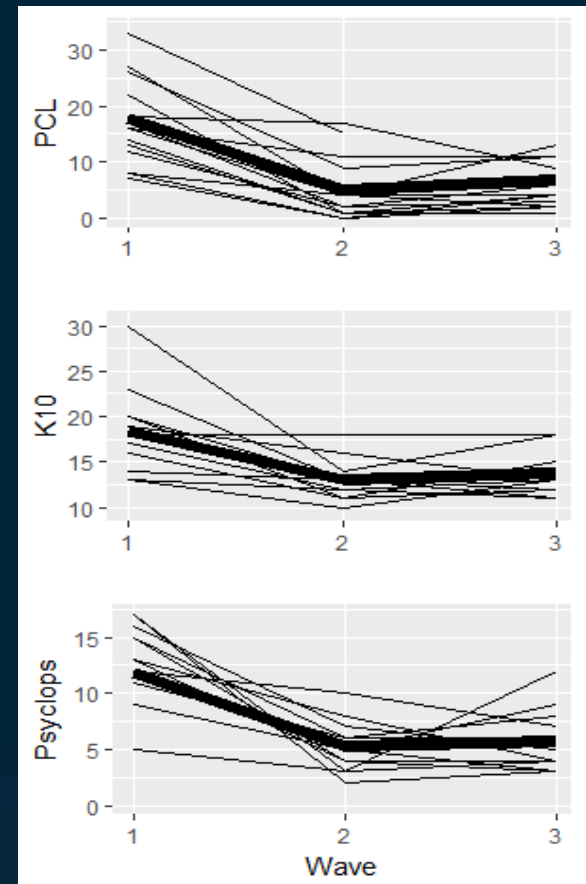


- Summarize cases
- Present challenges in delivering SOLAR
- Cases need extra support with
- Any participants no longer attending sessions & contingencies.

SOLAR Efficacy (Australia)

Single group pre/post design

- 15 disaster survivors with adjustment difficulties
- 8 Coaches trained
- Pre/post, 3-month follow-up
- Positive outcomes
- Results demonstrated safety

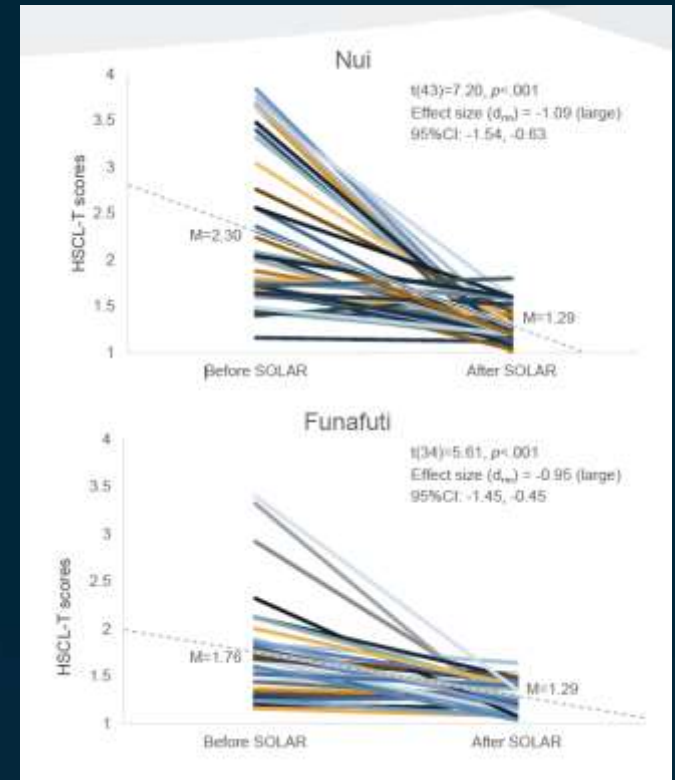


SOLAR Efficacy (Tuvalu)

Waitlist Control – 2 groups

- 79 disaster survivors with adjustment difficulties – 44 from Nui, 35 from Funafuti
- 7 Coaches trained in Nui, 5 Coaches trained in Funafuti
- Pre/post, 3-month follow-up
- Positive outcomes for group sessions
- Results demonstrated safety

Distress Scores





Thank you for your interest!

Scott.Pickett@med.fsu.edu

Samantha.Nagy@med.fsu.edu



Comments and Questions

- Please step to the microphone and share your name and library system
- What ideas and questions have these presentations sparked for you?



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Thank You!

**Please send any remaining
comments and questions to
mmardis@fsu.edu**

Join us at the Reception!